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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/396,352	09/14/1999	TUMAY O. TUMER	101873.0001US1	7308

24392 7590 11/17/2011

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ART UNIT	**PAPER NUMBER**
2612	

NOTIFICATION DATE	DELIVERY MODE
11/17/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	09/396,352	TUMER, TUMAY O.	
	Examiner	Art Unit	
	TAI T. NGUYEN	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *RCE filed on 09/27/2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *27,28,33-52,54-84 and 90-109* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *27-28, 33-52, 54-84, 90-109* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 27-28, 33-34, 48-52, 54-64, 68-74, 100, 102-103, and 107-109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kip et al. (US 5,105,190) in view of Moskowitz et al. and Carroll (US 4,857,893).

Regarding claims 27 and 50-52, and 64, Kip et al. disclose a tag comprising a circuit having:

a first receiving antenna (5) that receives an electromagnetic wave (Fig. 2);

a signal receiving system that receives and stores input data derived from the wave (23, 24 of Fig. 2; Fig. 3),

a separate power storage component that receives and stores sufficient energy to power the circuit including the transmitting antenna (6, 26, 8 of Fig. 2);

a data processing system (7 of Fig. 2) that produces output data form the input data; and

a second transmission antenna in the form of a backscatter antenna (5) and electronics (7) transmit at least a portion of the output data externally to the tag (Figs. 2-3).

Kip et al. disclose the instant claimed invention except for except: a) the claimed separate use of first and second antennas for respective receiving and transmitting; b) the circuit is in the form of an integrated circuit.

a. In the same art of tag construction, Moskowitz et al. teaches the known alternative use of first and second separate (dipole) antennas for receiving and transmitting, respectively (Fig. 5); while Carroll teaches all circuit components of a tag are implemented in the form of an integrated circuit located on a die (Figs. 9A-9B and col. 11, line 11 to col. 12, line 51). While Kip et al. shows using a single antenna for transmitting and receiving requiring sharing of the antenna, Moskowitz et al. demonstrated the single antenna's well known alternative of using separate transmitting and receiving antennas (Figs. 4-6). It would have been
obvious to one of ordinary skill in the art at the time of the claimed invention to use separate receiving and transmitting antennas in a system such as taught by Kip et al. and Moskowitz to alleviate the need to share a single antenna for both receiving and antenna thus alleviating antenna-sharing timing management constraints, and furthermore to use first and second dipole antennas as taught by Moskowitz et al. as alternatives to the coil antenna of Kip et al. for relatively longer reading range.

b. In the same art of tag construction, Carroll teaches all circuit components of a tag are implemented in the form of an integrated circuit located on a die (Figs. 9A-9B and col. 11, line 11 to col. 12, line 51). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the tag circuit

of Kip in an integrated circuit form as taught by Carroll for mass production benefits such as cost, and compact housing for ease of physical application in intended uses.

Therefore, in view of the teachings by Kip et al., Moskowitz et al. and Carroll, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the tag circuit of Kip and Moskowitz in an integrated circuit form as taught by Carroll for mass production benefits such as cost, and compact housing for ease of physical application in intended uses.

Regarding claim 28, Kip et al., as modified, render all of the claimed subject matter obvious as in the consideration of amended claim 27.

Regarding claim 33, Kip et al., as modified, disclose the instant claimed invention except for the wave has a wavelength within a spectrum of the wavelengths from radio waves to ultraviolet light inclusive (RF of Abstract of Moskowitz et al.; col. 4, lines 50-55 and col. 2, lines 43-52 of Carroll.) While Kip et al. did not specify the frequency range of the electromagnetic waves in the spectrum, Moskowitz et al. and Carroll specified the RF waves, and Carroll indicated that use of RF waves as opposed to magnetic fields enables longer reading range (col. 2, lines 43-52). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the tag system of Kip et al., Moskowitz et al. and Carroll using RF waves for increased reading range for broader utility.

Regarding claims 34-35, Kip et al., as modified, disclose the instant claimed invention except for the claimed nonvolatile memory section (24 of Fig. 5 and col. 2,

lines 52-55 and col. 3, lines 4-5 of Kip et al.) that stores at least a portion of the input data and at least a portion of the output data (both).

Regarding claims 36 and 43, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 27, including: a shift register circuit (76, 82 in Fig. 4 of Carroll), except for the claimed multiplexer that controls flow of the input data. Kip et al. teaches receiving input data for writing into the tag memory (24) whereby the input data is received in electromagnetic wave in a serial manner (Fig. 3, waveform "b"). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use either an appropriate shift register circuit shown as known in the art by Carroll, or a multiplexer to control flow of the input data into the memory for storage in a tag such as taught by Kip et al., Moskowitz et al. and Carroll if the memory-write operation involves converting the serial input data stream into parallel data bits, such as in parallel-input type memories.

Regarding claims 37 and 42, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 27, including: a clock generator circuit (28 in Fig. 2 of Carroll), except for a pulse generating circuit. Carroll shows the known use of a clock generator circuit for providing timing signals for controlling tag operations (28 in Fig. 2 and col. 4, lines 55-57). Kip et al. shows that the IC 7 in Fig. 3 activates switch 9 according to the output data in digital form. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include a clock generator circuit such as taught by Carroll, or a similar pulse generating circuit (since used for digital switching here) in IC 7 in a tag such as taught by Kip et al., Moskowitz et al. and

Carroll to provide the timing signals for operation of the switch to generate the digital output data.

Regarding claims 38 and 40, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 27, plus the consideration of claims 90 and 92, respectively.

Regarding 39 and 41, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 27, plus the consideration of claims 91 and 93, respectively.

Regarding claim 44, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 27, including second antenna is a backscatter type antenna (antenna 5 in Fig. 2 and col. 2, lines 32-46 of Kip et al. describing the antenna having backscattering characteristics when in transmitting mode, in combination with Moskowitz et al.'s teaching of using second antenna for transmitting separate from first antenna for receiving.

Regarding claim 48, Kip et al., as modified, ender all of the claimed subject matter obvious as in claim 27, plus the consideration of claim 68.

Regarding claim 49, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 28, plus the consideration of claim 33.

Regarding claims 54-55, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 28, plus the consideration of claims 34-35, respectively.

Regarding claim 56, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 28, except: the multiplexer that controls flow of the output data. Since Kip et al. teaches reading output data from the tag memory (24) for serial output using switch 9 (Fig. 2) whereby the data is digital (Fig. 3, waveform "b"), it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use a multiplexer to control flow of the output data during reading from the memory (conversion from parallel to serial data) for outputting/transmitting in a tag such as taught by Kip et al., as modified, if the memory-read operation involves converting the memory stored data into serial data stream, such as when the memory is of the parallel-out type memory.

Regarding claim 57, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 28, plus the consideration of claim 37.

Regarding claims 58 and 60, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 28, plus the consideration of claims 38 and 40, respectively.

Regarding claims 59 and 61, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 28, plus the consideration of claims 39 and 41, respectively.

Regarding claims 62-63, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 28, plus the consideration of claims 42-43, respectively.

Regarding claim 68, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 28, plus the consideration of claim 48.

Regarding claims 69-70, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 28, plus the consideration of claim 33 (RF).

Regarding claim 71, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 27, plus the consideration of claims 34 and 52.

Regarding claim 72, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 28, plus the consideration of claim 71, including a monolithic integrated circuit (line 17 of Abstract of Carroll).

Regarding claim 73, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 27, plus the consideration of claim 96.

Regarding claim 74, Kip et al., as modified, render all of the claimed subject matter obvious as in claim 28, plus the consideration of claim 73.

Regarding claims 102-103, Kip et al., as modified, render obvious all of the claimed subject matter as in claim 27, including: the claimed loop antenna (coiled antenna 5 of Kip et al. which inherently is a loop or loop antenna).

Regarding claim 107, Kip et al., as modified, render obvious all of the claimed subject matter as in claim 28, including: the claimed loop antenna (coiled antenna 5 of Kip et al. which inherently is a loop or loop antenna).

Regarding claims 108-109, Kip et al., as modified, render obvious all of the claimed subject matter as in claim 28, plus the consideration of claim 64.

3. Claims 45 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kip et al., as modified, as applied to claims 27-28 above, and further in view of Roth et al. (US 5,272,117).

Regarding claim 45, Kip et al., as modified, made obvious all of the claimed subject matter as in claim 28, disclose the instant claimed invention except for the claimed wherein the integrated circuit (IC) utilizes a substrate that includes a material selected from the group consisting of silicone, germanium, GaAs, sapphire, or diamond. Carroll teaches using a chip substrate wherein the integrated circuit and various other tag components are built onto (Figs. 9A-9B), while various materials including silicone, germanium, GaAs, and sapphire or diamond have been known for use in constructing IC or semiconductor substrates or supports, such as taught by Roth et al. (col. 2, line 67 to col. 3, line 14). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that such conventionally used materials can be used as the chip die material/substrate the device such as taught by Roth et al. built onto in view of Kip et al., as modified.

Regarding claim 65, refer to claim 45 above.

4. Claims 46-47 and 66-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kip et al., as modified, as applied to claims 27-28 above, and further in view of Schoenian et al. (US 5,748,106).

Regarding claims 46-47, Kip et al., as modified, made obvious all of the claimed subject matter as in claim 27, except: the claimed wherein the integrated circuit contains test and monitoring control circuitry or points and pads. However, the concept of testing and monitoring electronic circuits and components on devices either via onboard circuitry or via external devices using testing and monitoring points/pads, in order to ensure the circuits/components are working properly has been well known in the electronic device art. Schoenian et al. further demonstrated that it has been known to test/monitor the circuits on an electronic tag (col. 2, lines 1-13 and Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include test and monitoring control circuitry or points and pads in an electronic tag device such as taught by Kip et al., as modified, in order to ensure proper operations such as taught by Schoenian et al. by allowing testing using either on-board or external testing/monitoring circuitry.

Regarding claims 66-67, Kip et al., as modified, made obvious all of the claimed subject matter as in claim 28, plus the consideration of claims 46-47 above.

5. Claims 104-106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kip et al., as modified, as applied to claim 27 above, and further in view ofTuttle et al. (US 5,779,839).

Regarding claims 104-106, Kip et al., as modified, disclose the instant claimed invention except for a single pole antenna. It has been well-known in the art that a variety of antenna types can be implemented on an RFID transponder tag including a single pole (monopole) antenna, such as taught by Tuttle et al. (Abstract; col. 2, lines 59-65). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the known single pole antenna as taught by Tuttle et al. in the system as disclosed by Kip et al., as modified for the purpose of the intended designing criteria of power, range and frequency considerations.

6. Claims 75-76, 78-81, 83-84, 90-96 and 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kip (US 5,105,190) in view of Carroll (US 4,857,893).

Regarding claim 75, Kip et al. discloses a tag comprising a circuit that includes:

a receiving antenna (5) that receives an electromagnetic wave (Fig. 2);

a signal receiving system that receives and stores input data derived from the wave (23, 24 of Fig. 2, Fig. 3);

a separate power storage component that receives and stores sufficient energy to power the circuit including the transmitting antenna (6, 26, 8 of Fig. 2);

a data processing system (7 of Fig 2) that produces output data form the input data, and

a transmission electronic in the form of the backscatter antenna (5) and electronics (7) that transmit at least a portion of the input data externally to the tag (backscattering communication in Figs. 2-3).

Kip et al. discloses the instant claimed invention except for specifying the claimed wherein the circuit is in the form of an integrated circuit. In the same art of tag construction, Carroll teaches all circuit components of a tag are implemented in the form of an integrated circuit located on a die (Figs. 9A-9B and col. 11, line 11 to col. 12, line 51). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the tag circuit of Kip in an integrated circuit form as taught by Carroll for mass production benefits such as cost, and compact housing for ease of physical application in intended uses.

Regarding claim 76, Kip et al. and Carroll render obvious all of the claimed subject matter as in claim 75, including the claimed wave has a wavelength within a spectrum of the wavelengths from radio waves to ultraviolet light (col. 4, lines 50-55 and col. 2, lines 43-52 of Carroll). While Kip et al. did not specify the frequency range of the electromagnetic waves in spectrum, Carroll specified the RF waves, and indicated that use of RF waves as opposed to magnetic fields enables longer reading range (col. 2, lines 43-52). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the tag system of Kip et al. and Carroll using RF waves for increased reading range for broader utility.

Regarding claim 78, Kip et al. and Carroll render obvious all of the claimed subject matter as in claim 75, including a loop antenna (coiled antenna 5 of Kip et al. which inherently is a loop or loop antenna).

Regarding claims 79 and 81, Kip et al. and Carroll render all of the claimed subject matter obvious as in claim 75, including: claimed nonvolatile memory section that stores at least a portion of the input data (24 of Fig. 5 and col. 2, lines 52-55 and col. 3, lines 4-5 of Kip et al.).

Regarding claim 80, Kip et al. and Carroll render all of the claimed subject matter obvious as in claim 75, including: a tuning circuit ("C" and "10" in Fig. 4 and "10" in Fig. 2 of Kip et al.) that tunes the first antenna to receive the wave at a frequency of between RF waves and ultraviolet ("C3", "C4" in Fig. 6 and col. 5, lines 34-38 of Carroll).

Regarding claims 83 and 95, Kip et al. and Carroll render all of the claimed subject matter obvious as in claim 75, including a shift register circuit (76, 82 in Fig. 4 of Carroll), but fail to disclose a multiplexer that controls flow of the input data. Kip et al. teaches receiving input data for writing into the tag memory (24) whereby the input data is received in electromagnetic wave in a serial manner (Fig. 3, waveform "b"). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use either an appropriate shift register circuit shown as known in the art by Carroll, or a multiplexer to control flow of the input data into the memory for storage in a tag such as taught by Kip et al. and Carroll if the memory-write operation involves converting the serial input data stream into parallel data bits, such as in parallel-input type memories.

Regarding claims 84 and 94, Kip et al. and Carroll render all of the claimed subject matter obvious as in claim 75, including a clock generator circuit (28 in Fig. 2 of Carroll), but fail to disclose the claimed pulse generating circuit. Carroll shows the known use of a clock generator circuit for providing timing signals for controlling tag operations (28 in Fig. 2 and col. 4, lines 55-57). Kip et al. shows that the IC 7 in Fig. 3 activates switch 9 according to the output data in digital form. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include a clock generator circuit such as taught by Carroll, or a similar pulse generating circuit (since used for digital switching here) in IC 7 in a tag such as taught by Kip et al. and Carroll to provide the timing signals for operation of the switch to generate the digital output data.

Regarding claims 91 and 93, Kip et al. and Carroll render all of the claimed subject matter obvious as in claim 75, including input and output data are in digital form (Figs. 2-3 of Kip et al.).

Regarding claims 90 and 92, Kip et al. and Carroll render all of the claimed subject matter obvious as in claim 27, including: the claimed input and output data are in analog form (Fig. 5A of Carroll). While Kip et al. discloses a tag communication system using digital data format, Carroll shows the known alternative of using analog. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use either analog or digital form for the input and output data in a tag such as taught by Kip et al. and Carroll based on the preferred modulation method of choice without unexpected results.

Regarding claim 96, Kip et al. and Carroll render all of the claimed subject matter obvious as in claim 75, including: the claimed data processing system that processes the input data and produces at least one decision and takes at least one action (circuit component 7 in Fig. 2 of Kip et al. that bases on the input data in the input wave and decides on the operations and actions of reading, writing, and transmitting and carrying out those operations and actions).

Regarding claim 100, Kip et al., as modified, discloses the instant claimed invention except for a circuits selected from a group of circuits including logic (AND & OR/NOR logic gates used in Fig. 4 of Carroll), sequencing (register 76 in Fig. 4 of Carroll) and switching (9 in Fig. 2 of Kip et al.; gated switching in Fig. 4 of Carroll). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use such known logic and sequencing circuits in a tag such as taught by Kip et al. and Carroll to logically determine (using logic) the current mode of operation (reading and writing in Fig. 3 of Kip et al.) and to time (using sequencing) the operational stages of receiving, reading, writing, switching and transmitting.

7. Claim 77 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kip et al., as modified, as applied to claim 75 above, and further in view of Moskowitz et al. (US 5,528,222).

Regarding claim 77, Kip et al., as modified, disclose the instant claimed invention except for the receiving antenna being selected from the group of consisting of a dipole,

a backscatter, a half wave, and a quarter wave antenna. As mentioned in claim 27 above, Moskowitz et al. the second antenna being selected from the backscatter type antenna (antenna 5 in Fig. 2 and col. 2, lines 32-46 of Kip et al. describing the antenna having backscattering characteristics when in transmitting mode, in combination with Moskowitz et al.'s teaching of using second antenna for transmitting separate from first antenna for receiving. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the backscatter antenna as taught by Moskowitz et al. in the system as disclosed by Kip et al., as modified, for the purpose of providing two way communication between a tag and a remote devices.

8. Claim 82 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kip et al., as modified, as applied to claim 75 above, and further in view of Carney et al. (US 5,446,447).

Regarding claim 82, Kip et al., as modified, discloses the instant claimed invention except for a driver circuit drives the second antenna selected from a group including full wave, half-wave and quarter-wave reflectors. Kip et al., as modified, drives the second antenna as a reflector (backscatter) for communicating output data out of the tag using known antennas including coil/loop antennas and dipole antennas. In the same art, Carney et al. teaches the known alternative use of a half-wave or quarter-wave patch antenna as the backscattering/reflector antenna in an RF passive tag for operation in the 2.5 GHz or 5.7 GHz ranges (col. 7, lines 27-57; col. 5, lines 56-67).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the known

patch antenna as taught by Carney et al. in the system as disclosed by Kip et al., as modified, for the purpose of providing operating frequency ranges at a desired or preferred in particular applications or application environments.

9. Claim 97 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kip et al., as modified, as applied to claim 75 above, and further in view of Roth et al. (US 5,272,117).

Regarding claim 97, Kip et al., as modified, disclose the instant claimed invention except for the claimed wherein the integrated circuit (IC) utilizes a substrate that includes a material selected from the group consisting of silicone, germanium, GaAs, sapphire, or diamond. Carroll teaches using a chip substrate wherein the integrated circuit and various other tag components are built onto (Figs. 9A-9B), while various materials including silicone, germanium, GaAs, and sapphire or diamond have been known for use in constructing IC or semiconductor substrates or supports, such as taught by Roth et al. (col. 2, line 67 to col. 3, line 14). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that such conventionally used materials can be used as the chip die material/substrate the device such as taught by Kip et al. and Carroll is built onto in view of Roth et al.

10. Claims 98-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kip et al., as modified, as applied to claim 75 above, and further in view of Schoenian et al. (US 5,748,106).

Regarding claims 98-99, Kip et al., as modified, disclose the instant claimed invention except for the integrated circuit contains test and monitoring control circuitry or points and pads. The concept of testing and monitoring electronic circuits and components on devices either via onboard circuitry or via external devices using testing and monitoring points/pads, in order to ensure the circuits/components are working properly has been well known in the electronic device art. Schoenian et al. further demonstrated that it has been known to test/monitor the circuits on an electronic tag (col. 2, lines 1-13 and Fig. 1). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the test and monitoring control circuitry as taught by Schoenian et al. in the system as disclosed by Kip et al., as modified, for the purpose of allowing testing using either on-board or external testing/monitoring circuitry.

11. Claim 101 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kip et al., as modified, as applied to claim 75 above, and further in view of Tuttle et al. (US 5,779,839).

Regarding claim 101, Kip et al., as modified, render obvious all of the claimed subject matter as in claim 75, except: --the claimed wherein the antenna comprises a single pole antenna. However, it has been known that a variety of antenna types can be

implemented on an RFID transponder tag including a single pole (monopole) antenna, such as taught by Tuttle et al. (Abstract; col. 2, lines 59-65). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the known single pole antenna as taught by Tuttle et al. in the system as disclosed by Kip et al., as modified for the purpose of the intended designing criteria of power, range and frequency considerations.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Beigel (US 5,973,598).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAI T. NGUYEN whose telephone number is (571)272-2961. The examiner can normally be reached on Monday-Friday from 7:30am-5:00pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TAI T NGUYEN/
Primary Examiner, Art Unit 2612

November 8, 2011